

NJDOE MODEL CURRICULUM PROJECT

CONTENT AREA: Mathematics	GRADE: 1	UNIT: # 5	UNIT NAME: Reasons with Shapes and Their Attributes
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#	STUDENT LEARNING OBJECTIVES	CORRESPONDING CCSS
1	Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles and quarter circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.	1.G.2
2	Partition circles and rectangles into two or four equal shares, describing the shares using halves, fourths, and, quarters, and use the phrases half of, fourth of, and quarter of.	1.G.3
3	Describe the whole circle (or rectangle) partitioned into two or four equal shares as "two of", or "four of" the shares.	1.G.3
4	Add within 100, including adding a two-digit and a one-digit number, and adding a two-digit number and a multiple of 10; using concrete models, or drawings and strategies based on place value, properties of operations and/or the relationship between addition and subtraction; and relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.	1.NBT.4
5	Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.	1.OA.1
6	Add and subtract within 20 (fluently within 10). Use strategies such as: counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1$	1. OA.6

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	= $10 - 1 = 9$); relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent sums (e.g., adding $6 + 7$ by creating the known equivalents $6 + 6 + 1 = 12 + 1 = 13$).	
7	Organize, represent, and interpret, data with up to three categories, and compare the number counts of data points among the categories, e.g., equal to, more than, or less than another category.	1.MD.4

Repeated Standards

SLO #4 is a benchmark for standard **1.NBT.4** in this unit: **Add within 100, including adding a two-digit and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models, or drawings and strategies based on place value, properties of operations and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.**

SLO #5 is a benchmark for standard **1.OA.1** in this unit: **Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.**

SLO #6 is a benchmark for standard **1.OA.6** in this unit: **Add and subtract numbers within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalents $6 + 6 + 1 = 12 + 1 = 13$).**

Bold type indicates grade level fluency requirements. (Identified by PARCC Model Content Frameworks).

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Selected Opportunities for Connection to Mathematical Practices

1. Make sense of problems and persevere in solving them.

SLO #1 Use concrete component objects to help conceptualize and form two and three-dimensional shapes.

SLO #2 Understand the relationship of the whole to its parts when dividing shapes into equal shares

SLO #4 Explain the steps involved and how to solve an addition problem (within 100).

2. Reason abstractly and quantitatively.

SLO #2 Understand and make sense of the quantities of the whole and its equal shares.

SLO # 5 Understand and make sense of the quantities and how they relate to solving an addition or subtraction word problem.

SLO # 6 Understand and make sense of the relationship between addition and subtraction and the quantities involved in equation.

3. Construct viable arguments and critique the reasoning of others.

4. Model with mathematics.

SLO #5 Apply previously learned mathematics skills to solve addition and subtraction word problems.

5. Use appropriate tools strategically.

SLO #1 Use available and appropriate tools when composing new two and three-dimensional shapes.

SLO #4 Utilize appropriate tools when using diagrams or concrete models to add within 100.

6. Attend to precision.

SLO #2 Use clear and precise mathematical language to explain and describe dividing shapes into equal shares.

SLO #3 Use clear and precise mathematical language to explain and describe parts of a whole.

SLO #4 Use clear and precise language when explaining how to add within 100, which might include reasoning based on place value, properties of operations, or the relationship between addition and subtraction.

7. Look for and make use of structure.

SLO #4 Understand the pattern when adding within 100.

SLO #6 Understand the relationship between addition and subtraction.

8. Look for and express regularity in repeated reasoning.

Bold type identifies possible starting points for connections to the SLOs in this unit.

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Code #	Common Core State Standards
1.G.2	Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles and quarter circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.
1.G.3	Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more shares creates smaller shares.
1.NBT.4	Add within 100, including adding a two-digit and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models, or drawings and strategies based on place value, properties of operations and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.
1.OA.1	Add and subtract numbers within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalents $6 + 6 + 1 = 12 + 1 = 13$).
1. OA.6	Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
1.MD.4	Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, e.g., how many in each category, and how many more or less are in one category than in another.

Bold type indicates grade level fluency requirements. (Identified by PARCC Model Content Frameworks).